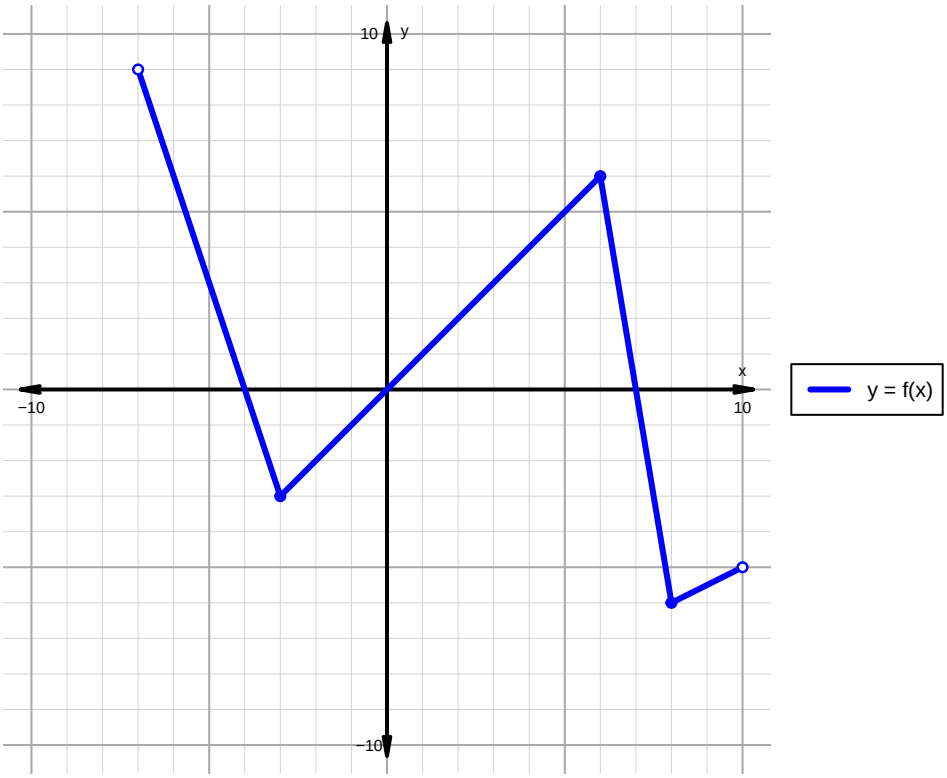
Name: Date:

Intervals, Transformations, and Slope Solution (version 69)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-4)\cup(0,7)$
Negative	$(-4,0)\cup(7,10)$
Increasing	$(-3,6)\cup(8,10)$
Decreasing	$(-7,-3)\cup(6,8)$
Domain	$(-7,10)$
Range	$(-6,9)$

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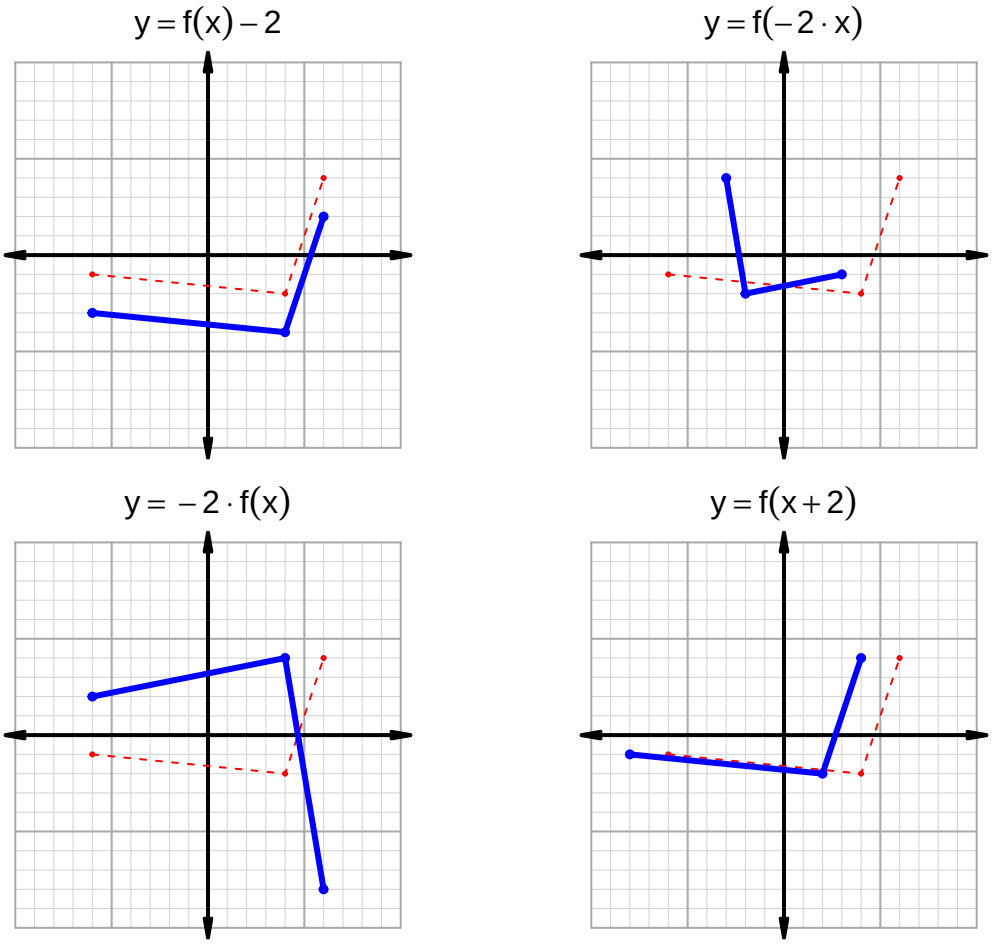
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 36$ and $x_2 = 78$. Express your answer as a reduced fraction.

x	$g(x)$
4	36
34	78
36	34
78	4

$\frac{g(78)-g(36)}{78-36} = \frac{4-34}{78-36} = \frac{-30}{42}$

The greatest common factor of -30 and 42 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-5}{7}$$